



## ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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EPA Region 6 Records Ctr.



276731

To : File

From : Jim Mergen

Re: 1770205168 Stephenson County  
Freeport/CMC Properties  
Site Remediation/Technical Reports File

Subject: Illinois EPA Review of December 16, 2005 (Log #05-27630) *Remedial Objectives Report and Remedial Action Plan* and Revised *Remedial Objectives Report and Remedial Action Plan* (April 21, 2006/Log Number 0629221) for the CMC Properties Submitted by Fehr-Graham & Associates

The Remediation Applicant and owner, the City of Freeport is seeking a comprehensive No Further Remediation Letter for this 18-acres former railroad right-of-way and switching yard area as part of a plan to redevelop it into a bike path. The site has a Federal Brownfield Grant and a State Brownfield Grant to investigate potential environmental concerns on the bike trail development area. The Remediation site will be used as a recreational bicycle trail connecting to the newly built park/trail head at the former Burgess site (Tutty's Crossing) by a connecting pedestrian bridge across the Pecatonica River.

On December 28, 2004, the site was enrolled in the SRP (Log #04-25371). The various properties are located on the eastern shore of the Pecatonica River south of an old oxbow in eastern Freeport. The area of investigation extends from the northern right-of-way of Stephenson Street, north to the City corporate limits, and from Henderson Road on the east to the bank of the Pecatonica River on the west, excluding the property owned by Patterson Lumber. The site is currently abandoned with the former railroad tracks removed.

### Site History:

The site currently has a number of abandoned buildings related to the former Chicago, Milwaukee, St. Paul Railroad line and a former stockyard. Abandoned bulk oil and propane gas facilities are located along the eastern portion of the site. The northern boundary of the site is a cutoff oxbow of the Pecatonica River. This oxbow was filled with debris, garbage and discarded lead batteries on time.

The area of this remediation was first developed as a railroad line crossing the Pecatonica facing the former Burgess property on the West bank. The former railroad right-of-ways split near the center of the site to form a "Y" shape. As Freeport developed, a switching yard and a stockyard

were constructed on the southern right-of-way. Both lines were abandoned in the 1950's. Several bulk oil and propane gas plants operated until the 1990's along the eastern portion of the site along Henderson Road. An additional former bulk oil plant was identified on the westernmost parcel of the site. At least two UST's were identified within the property and more are suspected. The site is now overgrown with grass, brush and trees.

Two abandoned service stations are located at the corner of Henderson Road and Stephenson Street. Previous to this investigation, LUST funding was used to remediate these two sites. Tank removals were conducted at both locations and a total of over 1,800 tons of impacted soil removed.

#### Site Geology:

The site slopes slightly to the west towards the Pecatonica River. Soils in the area are classified as Huntsville silt loam of the Lawson-Radford Sawmill Association which consist of nearly level, dark colored, somewhat poorly drained, silty bottomland soils. The site is located on the flood plain of the Pecatonica River. Records indicate that groundwater is approximately 15 feet below grade. The RA's consultant calculated the hydraulic gradient at this site at various stages of the River from a low gradient of 0.00083 to the highest 0.0067. The consultant's proposed an average gradient for modeling purposes of 0.003 is determined to adequate. Chronic Lead water quality standards for the Pecatonica are 0.0935 mg/l and acute 0.4426 mg/l. The RA assumes that groundwater in the floodway adjacent to the river is classified as Class I Groundwater. The entire area of the remediation site is within the corporate limits of Freeport and covered by the City's Groundwater Ordinance Number 2004-12 approved on March 15, 2004 with an MOU.

#### Site Investigation

A series of investigations were conducted on portions of the site in February 2002 and October 2004, the RA provided a limited Phase 2 report on December 2004 and a supplemental report with work plan on June 27, 2005. Areas of concern identified across the site include an area where debris was dumped into the oxbow along the north side of the railroad right-of-way; AST/UST's related to the RR yards and bulk fuel facilities and spills related to past railroad activities in the yards.

On May 29 and 30, 2003, the RA conducted a preliminary subsoil investigation with the Site Assessment Unit of the IEPA which identified five UST's, two AST's, and drums of grease abandoned at the site. Nineteen soil borings were drilled across the site to depths ranging from 4 to 20 feet. Six of these borings were converted to groundwater monitoring wells. A total of 26 soil samples were taken. Soil samples were analyzed for target compounds then reviewed against Tier 1 residential SRO's because the site is proposed for future use as a park. Ascendances of benzene were found at two locations with the highest level being 11.0 mg/kg at B2B, near the former gas station at Stephenson and Henderson Avenue. PCB contamination was found at one location; benzo(a)pyrene at two locations and lead was found at levels above background at over half the borings. The highest levels of lead found 1,380 mg/kg at B18A and 773 mg/kg at B16 A were in the western corner of the site near the River.

Analysis of the six groundwater monitoring well samples found benzene at 2.0 mg/l and ethylbenzene at 1.2 mg/l in MW1 near the former bulk gas facilities on the eastern side of the site along Henderson Road. Lead levels in groundwater exceeded its Class I RO (0.0075 mg/l) in all six wells with the highest level found 0.0253 mg/l.

The RA requested that the Agency meet to discuss the results of the investigation to date on January 27, 2005. In that meeting Mergen and the RA agreed that contaminants of concern at the site required further delineation. The Site Assessment Unit was requested to further delineate the extent of lead/metals contamination at the site and to conduct an x-ray search for any additional UST's at the site.

On April 12, 2005, the RA and the IEPA conducted an XRF surface soil investigation, Bruce Everetts of the Agency's Site Assessment Unit and the City of Freeport's SRP consultant encountered a significant area of elevated lead impacted soils plus debris including battery debris at the along the southern shore of a closed off oxbow east of the Pecatonica River. The area is immediately north of the proposed bike trail. The investigators observed fill soils with debris exposed along the bank of the ox bow along the northern boundary of the site. Exposed debris along the ox bow bank included old industrial wastes, several types of batteries, bottles and slag. The estimated size of the impacted area may be up to 60 feet by 600 feet and up to 8 feet in depth. Total lead XRF readings on the surface of this impacted area ranged from 3,000 ppm to 9,000 ppm. Recent shallow excavations were observed on the ox bow bank, apparently hand dug by individuals scavenging old glass bottles from the lead contaminated fill.

The investigators reported their findings to the City. Freeport officials immediately stepped up police surveillance to prevent trespass onto this City own property. The City inspected the site, fenced and posted the area to preclude further scavenging/human exposure. SRP project manager, Mergen and community relations coordinator Michelle Teburgge contacted the Freeport Corporate Attorney, Sarah Griffin on April 27 and were informed the City was aware of the situation and acting to prevent human exposure to lead at the site. City officials met on April 28, 2005 to coordinate remediation issues.

The RA conducted an electromagnetic survey of the site in April 2005 identifying potential UST's at six different areas of the site. The XRF survey involved girding the site then conducting XRF readings at one hundred locations. A confirmation sample was taken and analyzed from the highest lead reading at sample 45399. Analysis of this soil sample found total lead at 20,000 ppm, TCLP lead at 10 mg/l and SPLP lead at 0.79 mg/l.

On June 27, 2005, the RA provided a Work Plan (Log #05-25371), along with presenting the results of the investigation to date and proposed options for proceeding with the remediation. The RA proposed to conduct further electromagnetic surveys and XRF readings and to remove identified and potential UST's along with any visually impacted soils around them. The RA delineated the extent of BETX contamination by taking confirmation soil samples from the side walls and floor of the excavation.

They propose to remove characteristically toxic levels of metals found in the top two feet along the bank of the oxbow to exclude the soil ingestion exposure route. The RA estimates that hot spots exist within an area from 1.2 to 1.4 acres of soil are impacted above 5 mg/l TCLP lead. The RA has provided a demonstration pursuant to 742.915 or 742.925 that potential exposure routes may be excluded under a Tier 3 risk assessment. The RA will need to demonstrate that lead levels remaining in soil are not in contact with human receptors (bike path users and maintenance personnel plus may need to demonstrate that lead impacted soils remaining at the site will not impact aquatic receptors in the surface water of the ox bow.

The RA is proposing to invoke the Freeport Groundwater Ordinance Number 2004-12 which has apparently been reviewed and approved by this Agency. According to the RA's consultant the area of the ordinance includes this remediation site. The RA will need to model groundwater impacts down gradient, identify property owners potentially impacted, conduct a well survey of potentially impacted down gradient landowners for pre existing wells. They will also need to demonstrate no impact on the surface water in the oxbow.

**Additional Requirements:**

The RA needs to conduct and provide confirmation sample results for the UST removal activities. Based on the results of these confirmation samples the RA needs to submit a revised Remediation Objectives Report demonstrating how the remaining petroleum contaminants in soil meet the requirements of 742. The ROR needs to contain a Tier 3 risk assessment to demonstrate that any metals impacted soils remaining in place will not adversely impact human health and the environment.

**Recommendation:**

I recommend approval of the RA's partial comprehensive site investigation and partial remedial action plan with conditions which include submittal of confirmation sampling results, completion of a remediation objectives report and revised remedial action plan once the UST removals are completed.